

IN THE CLAIMS:

No claims have been amended herein.

All of the pending claims 1 through 6 are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

Listing of Claims:

1. (Previously Presented) A process for forming a dielectric film on an exposed surface of a layer containing silicon in a chamber, the process comprising:
determining a desired thickness of the dielectric film, the dielectric film including silicon dioxide and silicon nitride therein when formed on the exposed surface of the layer containing silicon when the layer is maintained at a temperature in the range of at least 600° C to 1100° C in an oxidizing atmosphere;
introducing into the chamber a gaseous mixture including nitrous oxide exhibiting a partial pressure, ozone exhibiting a partial pressure, at least one compound containing a halogen selected from the group consisting of Cl₂, Br₂, HCl and HBr, and steam, the partial pressure of the ozone being at least one tenth the partial pressure of the nitrous oxide in the gaseous mixture, the gaseous mixture being substantially free of fluorine-containing gases; and
forming the dielectric film of the desired thickness by contacting the exposed surface of the layer containing silicon with the gaseous mixture including nitrous oxide, ozone, at least one compound containing a halogen selected from the group consisting of Cl₂, Br₂, HCl and HBr, and steam.
2. (Previously Presented) The process of claim 1, wherein the chamber is sealed.
3. (Previously Presented) The process of claim 2, wherein the chamber is maintained at a pressure within a range of 1 to 7,600 torr.

4. (Previously Presented) A process for forming a field-effect transistor gate dielectric layer on an exposed surface of a layer of polycrystalline silicon having a desired thickness in a chamber, the process comprising:
determining the desired thickness of the field-effect transistor gate dielectric layer, the field-effect transistor gate dielectric layer containing silicon dioxide and silicon nitride when formed on the exposed surface of the layer of polycrystalline silicon when the layer is maintained at a temperature in the range of at least 600° C to 1100° C in an oxidizing atmosphere;
providing a gaseous mixture including nitrous oxide, ozone, at least one compound containing a halogen selected from the group consisting of Cl₂, Br₂, HCl and HBr, and steam, the gaseous mixture being substantially free of fluorine-containing gases; and
forming the field-effect transistor gate dielectric to the desired thickness by subjecting the exposed surface of the layer of polycrystalline silicon to the gaseous mixture, the gaseous mixture including nitrous oxide at a partial pressure and ozone at a partial pressure, the partial pressure of the ozone being at least one tenth the partial pressure of the nitrous oxide.
5. (Previously Presented) The process of claim 4, wherein the chamber is sealed.
6. (Previously Presented) The process of claim 4, wherein the chamber is maintained at a pressure within a range of 1 to 7,600 torr.